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## CHANGE AND THE MANAGEMENT OF CHANGE

E. P. Durbin\*

### INTRODUCTION

The 1970s, as the 1960s, will be a decade of fast-paced changes -- changes in society, government, industry, and organization, and employee attitudes. Management systems must change accordingly if achieved outcomes are to coincide with anticipated goals. My thoughts this morning are restricted to the public sector, or to the area of public programs with which the private sector will deal. I think these are the new set of problems, the ones most different perhaps from the decade past. They are also the ones that may involve the aerospace industry. My recurring theme is "change, and the management of change." Change is needed. Looking back at the past decade, the failure to plan for change shows a tremendous gap between our national goals and outcomes in many areas. Let's take four examples.

1. In Vietnam, the most obvious, we can document a failure to achieve what we felt were quite limited objectives. We saw the failure of our institutions involved to adapt to the Vietnam environment. In many cases they still have not adapted. We are "Vietnamizing" in the American mold and yet there is no evidence to indicate that this is a successful mode of behavior.
2. The field of education, even after the Federal Government took note and infused large quantities of funds to the local level, has yet to see any significant change in educational practices at the local level. No adoption of educational technology or changes in the way teachers teach has taken place -- they still teach the way they were taught to teach.
3. In the transportation area there has been little success and little real attention toward problems of mass transit, mass movement. We still see a fragmented group of governmental agencies, each monitoring its own mode of transportation.
4. The weapons system acquisition process is still not under control, and Congress can still point to cases that embarrass the Department of Defense and the aerospace industry.

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These areas all indicate a failure to account for the characteristics of institutions and their effect on the policy process, policy initiation, choices between policies, and implementation -- the carrying out of policy. The result has been a disaffection and a public loss of confidence with our public agencies and with our large industrial corporations.

An example of this happened in 1962. Mark Cresap, then President of Westinghouse, responded to a speech by President Kennedy pointing out the need for new urban mass transit systems. At an estimated cost of about five million dollars, Westinghouse, in conjunction with some other people, put up five million dollars to design and build a demonstration system in Pittsburgh of an overhead rail transit system. Of course, it cost much more than five million dollars. That wouldn't surprise us now. More important, it worked well. It seemed to do its job. Mayors and other transit authorities liked it but they didn't buy transit systems. More often it turned out that consultants or consultant agencies to the transit authorities commented on purchases. The real customer was different than the apparent customer. Perhaps as important, cities were not set up to do sole-source procurement. Westinghouse would have had to establish a competitor so that there could be competitive bidding on such systems. Next, the cities and local governments didn't have funds to buy such systems and there was no federal mechanism set up to provide such funds. And last, the highway interests manifested some resistance to introducing such technology. These lessons are relevant today. Perhaps it is a characteristic of our own organizations that we learn from past mistakes only in the aftermath of catastrophe, and hope that we don't have to go that far today. Let me summarize. As planners and managers we have not accounted adequately for the effect of characteristics of organizations. They resist change, they do not learn, and they adapt very slowly.

#### CHANGES IN THE 1970s

We can anticipate a little what the future society may look like. In the cities, problems become manifest: environment, in all of its different dimensions; citizen demands for participation in government, increasing concern at the local level, the considerations of equity and efficiency in delivering municipal services; health; police; education; law and order, a continuing problem and the shifts in values that go along

with that problem; provision of adequate housing; transportation; labor relations; strikes by municipal employees; demands for continuing equal opportunity; and the ever-increasing cost of government. All these problems cause tension. Yet if we look at most city budgets, we find that not much money is allocated to many of these problems. The percentages of the budget spent on the disadvantaged youth programs versus fire protection would probably be surprising in most cases.

The point here is that we are deferring some problems by not setting up the mechanism and the funding to deal with them. The role of government is increasing, although it happens slowly and perniciously. Government is becoming an innovator of social priorities, partner in many new enterprises -- in health and manpower and transportation, and yet ideologically it is not the way we think about our government. We think of it as a protector of individual rights. We think the least government is the best government, but government has become a tremendous influence on societal considerations. There are also more demands being made on industry. You hear things like "if only business were more socially responsible it would move in and clean up these problems." Business is responsive because you can't sell things to a sick society. And businessmen have consciences and images of themselves. The penalty for flagrant neglect of societal values is quite high, but business and industry are frequently unprepared to deal with the political questions and the value questions in many of these different areas. Government needs to bite the bullet and make some decisions on goals and priorities in these areas. Then business can do what it is good at -- working efficiently at delivering systems and programs to meet needs.

#### GOVERNMENT

Problems of defense research and development are still with us in the 70s. Secretary Packard, in speaking to the House Appropriations Subcommittee March 18 pressed for much greater autonomy for weapon system program managers within DOD. He emphasized that the cost problem, cost growth, and cost overruns were an extremely important issue. We have tended to disbelieve that. A dispute has gone on over the last decade. One group has maintained that when Congress agrees to a program on the basis of a certain

cort it expects to get that system at roughly that cost. Another group has said no, that is not true: If we improve the effectiveness of a system then Congress will be willing to accept the necessary cost increases. I think it is becoming clear that the former case is true.

There are trends in defense program management emerging. These trends appear to be toward performance rather than design specifications. They are toward more flexibility and responsibility at the program manager level, less layering above him. There's a new thrust toward testing of components and prototypes at the operational level rather than in a laboratory environment -- an attitude of let's get specifications that really show us what these things will do in practice rather than in the laboratory. The relationship between the aerospace industry and the R&D business and the government has to come back to trust and cooperation.

These factors: problems, the quality of life, the persistent need to guard against technological surprise in national security, and the changing expectations of people, lead this to be called a "temporary" society. It is a rapidly changing society and will be transformed into something else. Social values will be different, environmental aspects will be different in ten or fifteen years -- a very rapid change.

#### INDUSTRY AND ORGANIZATION

Moreover the institutions and organizations we are familiar with now are changing. Certain forms can probably be hypothesized and discussed. Let's talk about industries. They will probably become more international in character and diversify their markets. They will undoubtedly have to account for societal values -- take a broader view. This may just mean asking a different set of questions about products or in what terms products are thought of. They may have to take more responsibility for their employees. The Japanese industrial model, both in structure and employee relationship, is not anywhere near the American industrial model and yet the Japanese seem to be doing quite well. Japanese industries tend to change their product mix rapidly and adapt more rapidly. American industries simply go out of business and other ones start up to bring in new products. The same situation occurs with our employees -- when we want new skills we

fire older people and we hire new people at half the cost. They bring their new skills with them. This keeps the whole educational complex turning out the new skills. It is relatively efficient for industry but it is hard on the employee. In the Japanese model the employee is not mobile. He joins a corporation and stays with that corporation for almost his entire working career. He may change careers three times within that corporation and be retrained and move into a completely different type of work. That kind of a model may get some stability for our work force.

Next consider the organizational form of industries. Corporations may change to make the task of innovation much more explicit to deal with a fluid environment. We see it in some cases now. A current business group exploits the presently available markets with commercially feasible and proven products. An innovation group does nothing but find new markets, new products, services, customers, and bring them up to commercial feasibility. It then passes them over, either just the product or with the team that started them.

Public organizational forms will have to change too. As problems continue to increase we will have to have increasing emphasis on problem solving rather than the provision and operation of services. The public has a growing and continuing distrust of traditional established routines, feeling that traditional approaches failed to provide solutions in the past. This may lead to an increased use of ad hoc machinery, task forces, commissions, inter-agency committees, special staffs, lumping and blurring across hierarchical organizational lines. Note that political executives under pressure for results tend to create new bodies. They create a national security council, domestic council, or some new group. It is a classical organizational device -- "If you want to get something done, start a new agency." The existing bureaucracies in the public sector of the local level will adapt because they are under pressure to adapt. Again the key word that comes through is "temporary." We will have adaptive and rapidly changing temporary groups of specialists linked by coordinators.

Routine operations such as planning, accounting, and monitoring of performance can become more centralized; but operating groups themselves can be decentralized with more autonomy.

I won't spend much time on this, but the job expectations of people are changing. Those whose opinions are changing seem to be quite vocal. Those are the expectations to which the rest of us will be forced to accommodate. Employees are better educated, better trained, they have acquired the habit of thinking, and they demand to participate in more of our work planning and organization.

#### EMPLOYEE ATTITUDES

Self-satisfaction in job fulfillment appears increasingly important. This is an analytic age, but there are some non-rational aspects of work groups that should be explicitly accounted for, otherwise they are surprising. Within institutions you find groups of people that you could probably call incrementalists. They say, "Analysis notwithstanding, you can only make slow incremental changes; you can only change about as far as a bureaucracy or institution can move in a year. Change must be gradual. Forget about comprehensive analysis and setting goals and moving towards something."

There is a whole school of people who might be characterized as the organizational development school, really an outgrowth of individual behavioral science. They feel that a lot of importance attaches to how each member of the staff, each member of the organization, feels about himself, how he understands himself as a person, and how he relates to other people. The key words are openness, sensitivity, and participation. This is an important product for these people.

Finally, all of us are aware of the politics of confrontation. These people say, "If there is evil, stop it right now! No analysis, no cost considerations, no alternatives; just stop it." They apply this dictum whether it is police brutality or whether it is grading exams on campus. As managers, planners, and designers of systems, we have to be aware of these existing and emerging forces. I am sure all of you in aerospace are now aware of the fragmentation of markets in the domestic sector. Dealing with the many thousand school boards and county medical associations is very different from dealing with a single NASA or a single DOD.

To a manager and market planner, the market looks very different, and it has been difficult for aerospace to break into these established markets.

MANAGEMENT SYSTEM NEEDS TO MEET THE CHALLENGES OF THE 1970s

Given these comments, what kind of management system changes do we need? Information systems are developing so fast that we must say something about them. We need better information systems for managers -- not better technology necessarily, but better utilization of information. Information must focus on output measures rather than on just control of input or on budgeting.

We need increased access to relevant information at all organizational levels. Information is a precious commodity and control of information is really control of power in many organizations. By diversifying access to information and by making it available, you create a participatory management system. Some people characterize this as a "flickering authority." That is, authority to initiate, analyze, review, and propose can flicker back and forth from echelon to echelon and from person to person depending on who has data and ideas, and who can check the ideas out.

In the field of quantitative and systematic analysis I think that our present tools are adequate. I cannot think of any problems that we have come across for which we have not had a technique of analysis. Perhaps we were asking the wrong question or lacked the appropriate data, but I do not think we are behind in the techniques and tools of quantitative analysis as traditionally defined. We need a broadened and more comprehensive ability to deal with these social, political, and behavioral elements. How you crank these in and how you do sensitivity analysis of policies with respect to different social values now seems to be black magic. We need to pin these issues down because these factors exist and are important beyond simple cost-benefit measures.

In summary, we need understanding but not blind faith nor rejection of the tools of quantitative analysis.

Behavioral science needs to pass from a research area into engineering techniques. We must have tried and true, tested, and generally



applicable behavioral science techniques for managers. Diagnostic tools, treatment tools, ways of motivating, forming, and assessing the performance of a group are now purely individual abilities that managers have. We must systematize them and make these skills and tools more widely available. We need to bring about full and free communication, consensus of management, satisfy the needs of people for responsibility and accomplishment, and fit jobs to individuals' talents. These are things we really do not know how to do very well. At least those of us who have been trained in traditional program management or quantitative analysis do not have the set of skills to do that.

There seems to be a convergent group of writers who say that management in the 1970s will be more maintenance of an environment of creativity and productivity rather than producing to a standard within a defined set of rules. Forrester has encompassed a lot of these things in a chapter called "A New Corporate Design." He lists about five characteristics of his new corporate design that are interesting: two are discussed here. One is the elimination of the superior-subordinate relationship. Obviously you have to replace it with something. He suggests replacing it by enlightened self-interest, or an incentive or market system, whereby the individual in a corporation sells his services to different people. You can see it in some places, where the project manager bids for people and buys their time for a period. That sets an implicit market value on individual worth. You do not need the superior-subordinate system if you can replace it by some market device. This would necessitate the second point, the creation of individual profit centers or individual measurement centers where you keep track of the cost and contribution of a person. This leads to an objective determination of compensation. A person's compensation is a function of his marginal productivity as viewed by his organization in a much more explicit way than currently.

Some broader areas also need consideration. More access and widespread access to information systems at all levels in the organization is necessary, as are policies that allow innovation and experimentation. Educational mobility is important. The organization should make available to the individual any education he needs to compete for jobs or to move to other jobs inside the corporation.

In a similar vein let me say something about the changes that I think are required in the public sector in management systems, management perceptions, and in public organizations. The theme that runs through these short comments is: we need a get-the-job-done approach, an output oriented approach rather than an input, control-oriented approach. My first point is more stress on human values. Many of you who have tried to get a building permit from a county building department probably have some sympathy for that. More humility and tolerance for other people's ideas is in order.

More important, perhaps, is some understanding of the economic, social, and political issues surrounding us and how one's job relates to these issues. It would provide linkage between what you are doing and what needs to be done. An ability to work in situations which are uncertain or in which there is no correct solution calls for tolerance of ambiguity. That does not characterize most of us. We need an understanding of organizations and how they function in the context of American politics because what we are taught, and what our methodology would have us believe about our organizations, is not the way organizations work at all. This is extremely important. It is the ability to get the job done in the real world. Public institutions should allow freedom and should provide some incentive for creativity, for experimentation, for innovation and for initiative. This is not a characteristic of our public organizations at the moment.

#### SUMMARY

It is most important that we bring under systematic management attention, the process of implementation--the process of going from goals and program decisions to effective social action through, or in spite of, our traditional agencies or organizations. I think this is our weakest link as agencies that are going to affect the society around us; we really do not know how to do that. It is an art that politicians have, but which we as managers must work at.

The task of the 70s is to manage change. Our values are shifting; the 60s show we do not know how to get there from here. In the 70s we will see accelerating change from technology towards humanism. We will see lots of problems. The result will be increasing government

involvement, and increasing demands on the private sector. Our management systems will have to deal with complex and unmeasurable social values and issues. We will work in a political environment. We will have to deal with inertia of organizations and with fragmented markets. Organizations will change to deal with the fluidity of the world around them. Right in the middle of that will be the manager. He will have to take account of all the tools available to him--information systems, quantitative techniques, and behavioral techniques within this environment of ambiguity, he will have to deliver his product.